

**Notice of Allowability**

Application No.

09/934,237

Examiner

Phuong Phu

Applicant(s)

YAMAZAKI, MOTOHIRO

Art Unit

2631

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 3/14/05.
2. ☒ The allowed claim(s) is/are 2-8.
3. ☒ The drawings filed on 21 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### REASONS FOR ALLOWANCE

1. This Office Action is responsive to the Amendment filed on 3/14/05.
2. Claims 2-8 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Reference (5682162) is additionally cited because it is pertinent to the claimed invention.

-Regarding to independent claim 2, none of prior art of record teaches or suggests a system as claimed. Tagami et al (5889483) (previously cited) fails to teach an addition means in combinations with limitations recited in the claim wherein the additional means receives a 1-bit digital signal produced by encoding an analog signal by delta sigma modulation and takes a sum of said 1-bit digital signals of a given number of samples applied immediately before, wherein said given number of samples corresponds to N times a number of bits of a repeating pattern appear in said 1-bit digital signal and corresponding to said delta sigma modulation when said analog signal assumes a zero value where N is an integer greater than 1. It would not have been obvious for one skilled in the art to implement Tagami et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

-Regarding to independent claim 3, none of prior art of record teaches or suggests a system as claimed. Tagami et al fails to teach the limitation "said addition means comprises a shift register having stages corresponding in number to said given number of samples for which said 1-bit digital signal is received and an adder for summing up values at each stage of said shift register, and wherein said first decision means produces said first signal when a sum value obtained by said adder corresponds to half of said given number of samples". It would not have

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been obvious for one skilled in the art to implement Tagami et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

-Regarding to independent claim 4, none of prior art of record teaches or suggests a system as claimed. Tagami et al fails to teach the limitation "said addition means comprises a shift register having stages corresponding in number to said number of samples for which said 1-bit digital signal is received, a comparison means for comparing the value of the 1-bit digital signal entered into said shift register and the value at the final stage of said shift register and producing a clock signal if they are different, and a counting means of a bit number more than half of said number of samples, said counting means counting UP in response to said clock signal when the 1-bit digital signal entered into said shift register is at a first logical level and counting DOWN when the 1-bit digital signal applied into said shift register is at a second level, and wherein said first decision means produces said first signal when a count value obtained by said counter corresponds to half of said number of samples". It would not have been obvious for one skilled in the art to implement Tagami et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Phuong phu*  
Phuong Phu  
04/19/05

**PHUONG PHU**  
**PRIMARY EXAMINER**

Phuong Phu  
Primary Examiner  
Art Unit 2631